

STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID:

K00002911

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

íalytical Supervisor

K00002911001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

09/24/2009 12:13 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.52

pH Units

Chlorine, residual:

Conductivity:

71

uMHO

mg/L

Temperature: 22.48 Dissolved Oxygen: 8.84

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DA					DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	160	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.41J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	U	μg/L	0.93	· 5	M Pattanayek	9/25/2009
Barium	26	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	· U	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.25J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	2.6	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.29J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	43	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.5J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected:

09/24/2009 12:13

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73**

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

Received By:

E McCrary

er:	
	000

7.52

71

22.48

pH Units

uMHO

mg/L

Othe

:Hq

Field Determinations

Dissolved Oxygen: 8.84

Chlorine, residual:

Conductivity:

Temperature:

Flow: **CFS**

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911002

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River mile 2.1

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

09/24/2009 10:15

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO: Sampling Agency: Water Knoxville

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.78

72

pH Units

Chlorine, residual: Conductivity:

uMHO

Temperature:

21.65 Dissolved Oxygen: 8.71

mg/L

Other: Flow:

CFS

TEST: Digestion Metals	T: Digestion Metals METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

EST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	310	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	ME ⁻	THOD: EPA 20	0.8		· · · · · · · · · · · · · · · · · · ·	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	250	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.60J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	26	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.21J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	0.68J	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.28J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	43	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.031J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	1.9J	μg/L	1.9	.5	M Pattanayek	9/25/2009

K00002911002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected:

09/24/2009 10:15

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

Received By:

E McCrary

Field Determinations

:Hq

7.78

pH Units

Chlorine, residual:

Conductivity:

72

uMHO

Temperature: **Dissolved Oxygen: 8.71**

21.65

mg/L

Other:

Flow:

CFS

TEST: Mercury METHOD: EPA 245.1							
ANALYTE	RESULT	UNITS	MDL MQL		ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	A Bass	10/5/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

Sample Description:

K00002911003

Project Name:

TVA-Ash Spill

pH: Approx 100' downstream from middle dredge pc Chlorine, residual:

Field Determinations

Dissolved Oxygen: 8.91

Conductivity:

Temperature:

Other:

Flow:

7.86

112

22.26

pH Units

uMHO

mg/L

CFS

Sampler Project Name: TVA Ash Spill

Project Site No.:

2A

Station No.:

Dredge Plume

Date/Time Collected:

09/24/2009 10:25

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

09/24/2009

13:28

Received By:

E McCrary

TEST: Digestion Metals	tals METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP	EST: ICP METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	440	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	ME ⁻	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	480	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.50J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	3.3J	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	38	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μ g/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	, U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.1J ·	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.42J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	1.8	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.78J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	46	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.054J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	2.7J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911003

Project Name:

TVA-Ash Spill

Sample Description: Approx 100' downstream from middle dredge pc Chlorine, residual:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Date/Time Collected:

Dredge Plume 09/24/2009

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20 TDEC-WPC

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

10:25

Received By:

E McCrary

T	ES	T:	M	erc	ury	
	_					-

METHOD: EPA 245.1

Field Determinations

Dissolved Oxygen: 8.91

Conductivity:

Temperature:

7.86

112

22.26

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	ua/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

Lab-Sample Number: K00002911004 **Project Name:**

TVA-Ash Spill

Sample Description: Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

2B

Project Site No.: Station No.: EMORY001.9RO Date/Time Collected:

Sampler's Name: County:

09/24/2009 10:35 Geoff Klein

ROANE - 73 Sample Matrix: Water EFO:

Knoxville Sampling Agency: TDEC-WPC **Billing Code:** 327.34-20 Send Report To: TDEC-WPC Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received: 09/24/2009 13:28

Received By: E McCrary **Field Determinations**

pH: 7.50 pH Units

Chlorine, residual:

68 Conductivity: uMHO

Temperature: 20.96

Dissolved Oxygen: 8.37 mg/L

Other:

Flow: **CFS**

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP	EST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Iron	430	μg/L	2.9	10	A Wilson	10/4/2009		

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	510	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.51J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	4.0J	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	42	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.5J	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.47J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	1.9	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.83J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	58	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.8	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.063J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.4J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

09/24/2009 10:35

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

Received By:

TEST: Mercury

E McCrary

METHOD: EPA 245.1	
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Field Determinations

Dissolved Oxygen: 8.37

Chlorine, residual:

Conductivity:

Temperature:

7.50

68

20.96

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002911005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Date/Time Collected:

EMORY001.7RO 09/24/2009 10:45

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code:

327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

Received By:

E McCrary

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

Field Determinations

Dissolved Oxygen: 8.68

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

7.41

73

20.94

pH Units

uMHO

mg/L

CFS

TEST: ICP	ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Iron	400	μg/L	2.9	10	A Wilson	10/4/2009		

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	460	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.43J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	3.1J	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	38	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.1J	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.43J	μg/L	0.04	· 1	M Pattanayek	9/25/2009
Copper	1.7	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.75J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	47	μg/L	0.42	1 -	M Pattanayek	9/25/2009
Nickel	1.7	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.040J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.2J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

Date/Time Collected:

EMORY001.7RO

Sampler's Name:

09/24/2009 10:45 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC

Priority Date:

TDEC-WPC

Date/Time Received:

09/24/2009

13:28

Received By:

TEST: Mercury

E McCrary

METHOD: EPA 245.1

Field Determinations

Dissolved Oxygen: 8.68

Chlorine, residual:

Conductivity:

Temperature:

7.41

73

20.94

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002911006

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River mile 0.1

Project Site No.:

Station No.: EMORY000.1RO

Date/Time Collected: Sampler's Name:

09/24/2009 10:55

County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

Dissolved Oxygen: 8.32

7.30

pH Units

Chlorine, residual:

Temperature:

Conductivity:

72

21.27

uMHO mg/L

Other:

Flow: **CFS**

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	390	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	460	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.45J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	2.8J	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	39	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	2.4J	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.48J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	2.6	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.73J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	43	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.7	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.036J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	2.6J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

09/24/2009 10:55

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

Received By:

TEST: Mercury

E McCrary

MET	HOD: EPA 24	5.1		
_		RADI	MAGI	

Field Determinations

Dissolved Oxygen: 8.32

Chlorine, residual:

Conductivity:

Temperature:

7.30

72

21.27

pH Units

uMHO

mg/L

CFS

:Ha

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911007

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Clinch River mile 2.3

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected:

09/24/2009 11:10

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.37

pH Units

Chlorine, residual:

Conductivity:

114

23.11

uMHO

Temperature: Dissolved Oxygen: 8.46

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	330	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	ME.	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	410	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.45J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic ·	2.8J	μg/L	0.93	5	M Pattanayek	9/26/2009
Barium	. 44	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.36J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	3.7	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.66J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	44	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.092J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	4.0J	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.6J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911007

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 2.3

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected:

09/24/2009 11:10

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

Received By:

TEST: Mercury

E McCrary

METHOD:	EPA 245.1

Field Determinations

Dissolved Oxygen: 8.46

Chlorine, residual:

Conductivity:

Temperature:

7.37

114

23.11

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

Date/Time Collected:

KingAshOutF2

09/24/2009 11:20 Geoff Klein

Sampler's Name: County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.46

pH Units

Chlorine, residual:

Conductivity:

94

uMHQ

Temperature:

23.09 Dissolved Oxygen: 8.69

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL.	ANALYZED BY:	DATE
Iron	460	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	590	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.80J	μg/L	0.33	1	M Pattanayek	9/26/2009
Arsenic	9.5	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	51	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	0.11J	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.50J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	7.5	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0. 9 2J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	61	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	1.8	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	1.3J	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.13J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	7.7	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	5.1	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

Date/Time Collected:

KingAshOutF2 09/24/2009 11:20

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009 13:28

Received By:

TEST: Mercury

E McCrary

METHOD: EPA 245.1

Field Determinations

Dissolved Oxygen: 8.69

Chlorine, residual:

Conductivity:

Temperature:

7.46

94

23.09

pH Units

uMHO

mg/L

CFS

:Ha

Other:

Flow:

ANALYTE MDL MQL RESULT UNITS ANALYZED BY: DATE U Mercury μg/L 0.029 0.2 A Bass 10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 8.59

Conductivity:

Temperature:

7.40

89

21.70

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: CLINC004.5RO **Date/Time Collected:**

Sampler's Name:

09/24/2009 11:30

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/25/2009				M Pattanayek	9/25/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Iron	400	μg/L	2.9	10	A Wilson	10/4/2009

TEST: ICP-MS	ME ⁻	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	420	μg/L	6.4	10	M Pattanayek	9/25/2009
Antimony	0.46J	μg/L	0.33	1	M Pattanayek	9/25/2009
Arsenic	3.4J	μg/L	0.93	5	M Pattanayek	9/25/2009
Barium	36	μg/L	2.5	5	M Pattanayek	9/25/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	9/25/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	9/25/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	9/25/2009
Cobalt	0.38J	μg/L	0.04	1	M Pattanayek	9/25/2009
Copper	2.8	μg/L	0.38	1	M Pattanayek	9/25/2009
Lead	0.69J	μg/L	0.10	1	M Pattanayek	9/25/2009
Manganese	44	μg/L	0.42	1	M Pattanayek	9/25/2009
Nickel	2.8	μg/L	0.25	1	M Pattanayek	9/25/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	9/25/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	9/25/2009
Thallium	0.038J	μg/L	0.03	1	M Pattanayek	9/25/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	9/25/2009
Zinc	3.5J	μg/L	1.9	5	M Pattanayek	9/25/2009

K00002911009

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 8.59

Conductivity:

Temperature:

7.40

21.70

89

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected:

09/24/2009

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/24/2009

13:28

11:30

Received By:

E McCrary

TEST: Mercury	. ME	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley

TDEC-WPC Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

Lab ID: K00002911

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002911001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected:

09/24/2009 12:13

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 10/04/2009

Date/Time Received:

09/24/2009

13:28

Received By:

E McCrary

Chlorine, residua	al:	
Conductivity:	71	uMHO
Temperature:	22 48	

Field Determinations

Dissolved Oxygen: 8.84

7.52

mg/L

pH Units

Other: Flow:

pH:

CFS

TEST: Alkalinity, Total	ME:	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	ME	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME	ΓHOD: SM 254	0F			<u>*</u>
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			***************************************
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Date/Time Collected:

Project Site No.:

2

Station No.:

EMORY002.1RO

Sampler's Name:

09/24/2009 10:15 Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date: Date/Time Received:

10/04/2009 09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.78

pH Units

uMHO

Chlorine, residual:

Conductivity:

72

21.65

Temperature: Dissolved Oxygen: 8.71

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	`WE.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	24	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	ME	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	22	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME.	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911003

Project Name:

TVA-Ash Spill

Sample Description:

Approx 100' downstream from middle dredge pc Chlorine, residual:

Field Determinations

Dissolved Oxygen: 8.91

Conductivity:

Temperature:

7.86

112

22.26

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Project Site No.:

Sampler Project Name: TVA Ash Spill

2A

Station No.:

Dredge Plume

Date/Time Collected:

09/24/2009 10:25

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 **TDEC-WPC**

Agency Invoiced: **Priority Date:**

TDEC-WPC 10/04/2009

Date/Time Received:

09/24/2009

13:28

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	23	mg/L	3.8	10	S Burchfield	9/28/2009	

TEST: Hardness, Calcium	WE.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	21	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					A
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	33	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002911004

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.9 at underwater weir

Project Site No.:

2B

Station No.:

Date/Time Collected:

EMORY001.9RO 09/24/2009 10:35

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date: Date/Time Received: 10/04/2009

Received By:

E McCrary

09/24/2009 13:28 **Field Determinations**

pH:

7.50

pH Units

Chlorine, residual:

Conductivity:

68

uMHO

mg/L

Temperature:

20.96

Dissolved Oxygen: 8.37

Other:

Flow:

CFS

TEST: Alkalinity, Total ANALYTE	ME		***************************************			
	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Total Alkalinity	22	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	25	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

3

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

09/24/2009 10:45 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

Priority Date:

10/04/2009

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations 7.41

pH:

pH Units

Chlorine, residual:

Conductivity:

73

uMHO

Temperature: 20.94 **Dissolved Oxygen: 8.68**

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	25	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	ME.	METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	21	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	18	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected: Sampler's Name:

09/24/2009 10:55

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC

Send Report To: Agency Invoiced:

327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

10/04/2009

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7,30

pH Units

Chlorine, residual:

Conductivity:

72

uMHO

Temperature: **Dissolved Oxygen: 8.32**

21.27

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	44	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	ME	THOD: SM 350				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	37	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME.	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	MET					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZ	ANALYZED BY:	BY: DATE
Total Suspended Solids	18	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911007

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected:

09/24/2009 11:10

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC 10/04/2009

Priority Date: Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.37

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 114

23.11

Dissolved Oxygen: 8.46

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	40	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	ME'					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	34	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	14	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected:

09/24/2009 11:20

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73**

Water

EFO:

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: Priority Date:

TDEC-WPC 10/04/2009

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

Field Determinations

pH:

7.46

pH Units

Chlorine, residual:

Conductivity:

94

uMH0

Temperature:

23.09 Dissolved Oxygen: 8.69

mg/L

Other: Flow:

CFS

TEST: Alkalinity, Total	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	33	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	30	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL AN	ANALYZED BY:	DATE
Total Suspended Solids	25	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002911009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

Field Determinations

Dissolved Oxygen: 8.59

Conductivity:

Temperature:

7.40

89

21.70

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected: Sampler's Name:

09/24/2009 11:30

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: Priority Date:

10/04/2009

Date/Time Received:

09/24/2009 13:28

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2					***
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	33	mg/L	3.8	10	S Burchfield	9/28/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	31	mg/L	0.7	1	P Leathers	9/28/2009

TEST: Residue, Settleable	ME'			***************************************		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	9/25/2009

TEST: Residue, Suspended	METHOD: SM 2540D					M*************************************
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	16	mg/L	10	10	A Peeples	9/25/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit